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Economic and political impacts of national space legislation in Europe

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Abstract

The legal discussion on the need for and the shape of national space legislation is broad and well documented. At the same time, thorough analysis on the economic aspects and the political consequences of national space legislation is strikingly missing. This paper tries to close this gap in that it systematically investigates in the economic consequences of national space legislation in Europe and decidedly points at the political aspects of how to achieve a harmonized legislative setting in Europe. Both issues are of high relevance in the current situation, where the European Union is struggling to find effective ways and means to support European space activities in time of the global financial and economic crisis and use space as a motor for economic growth and innovation. The current Presidency of the EU Council has therefore singled out the regulatory framework for space activities as an important element to be shaped in order to achieve these goals. This paper is based on a study conducted in the first half of 2009 by the European Space Policy Institute (ESPI).[1]

1. Preliminary considerations

The increasing commercialisation of space activities has triggered the proliferation of national space legislations which vary widely in territorial and material scope as well as in the conditions imposed for authorisation and liability considerations. Although all national legislations are based on the implementation of the UN Treaties, these constitute a very open common basis which may not suffice to bring national legislations into common lines.

In a landscape of more and more developed commercial space activities, the discussion on a common European Approach to national legislations seems timely now that national legislations have been adopted by three European

[1] Sánchez Aranzamendi, Matxalen. "Economic and Policy Aspects of Space Regulations in Europe. Part 1: The Case of National Space Legislation – Finding the Way between Common and Coordinated Action." ESPI Report 21. Vienna: 2009

countries in the last half decade.[2] Given the regulatory capacities of the European Union, which is capable of enacting directly applicable laws in the form of regulations as well as directives to bring together national laws, the debate in Europe has traditionally focused on harmonisation of national legislation. In this sense, the word "harmonisation" acquires a specific character which might need further clarification before going into a deeper assessment.

Equally, the object of harmonisation for this paper focuses on a strict definition of space legislation which excludes a range of regulations related to space but which are not dedicated to the strict implementation of international obligations.

Although to many the concept of space legislations may appear clear, it has not been so much the case in the discussions and policy papers adopted until now.[3] Equally, commercial operators seem to adopt a less systematic and a more practical approach, for them space legislations and space regulations are at the same level of concern as long as they have an impact in their commercial activities. Then what is to be understood as space legislation? From a narrow approach space legislations are those laws and accompanying legal instruments that implement the international obligations imposed by the outer space treaties, i.e. authorisation, supervision, liability and registration.

A handful of space faring nations have adopted such laws, all of them according to their own national interests and each of them with a different level of discretion. This creates gaps and differences which distort the landscape of commercial space operations across the international sphere.

It is believed that some sort of international legal mechanism is needed to overcome such deficiencies. Whereas further binding action at intergovernmental level, i.e. UN level, seems unlikely,[4] methods base on private international law seem to narrow considerably the possible scope of action as it would merely focus on conflict of laws resolution and forum determination issues. It assumed, therefore, that the European level would provide a suitable framework for such harmonisation.[5]

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[2] In Belgium, The Law on the Activities of Launching, Flight Operations or Guidance of Space Objects. F. 2005 — 3027. Moniteur Belge [C − 2005/11439] September 2005. and the Royal Decree implementing certain provisions of the Law of 17 September 2005 on the cativities of launching, flight operations and guidance of space objects. F. 2008 — 1182 Moniteur Belge [C − 2008/21031]. In the Netherlands, Law Incorporating "Rules Concerning Space Activities and the Establishment of a Registry of Space Objects. 80 Staatsblad (2007). In France, Loi n° 2008-518 du 3 juin 2008 relative aux opérations spatiales. JORF 04.06.2008 and implementing decrees no 2009-643, no 2009-644 and no 2009-640.

[3] E.g. the European Commission White Paper on Space Policy where regulatory harmonisation only focuses on regulatory matters such as frequency allocation or standardisation issues. European Commission. White Paper on Space: A new European frontier for an expanding Union- An action plan for implementing the European Space Policy. COM (2003) 673 final. 11 Nov 2003. Brussels.

[4] The current Working Group on national space legislation in the UNCOPUOS Legal Subcommittee might come up with useful recommendations but not with a binding legal instrument.

[5] Hobe, Stephan. "Harmonisation of National Laws an Answer to the Phenomenon of Globalisation." "Project 2001"-Legal Framework for the Commercial use of Outer Space. Böckstiegel, Karl-Heinz. 2002 Köln,/Berlin/Munchen: Karl Heymanns Verlag, 2002. 551,552.

However, harmonisation acquires a very specific meaning in the European Union. It is not only the means to bring together all national laws of a certain field but it also implies the giving up of sovereignty in this field. In addition, harmonisation in the context of the EU is linked to the considerations related to the internal market as well as further considerations on the furthering of the integration process.[6]

2. National space laws

Just over a dozen space legislations have been adopted up to date worldwide among which only five have been adopted by EU member states (Sweden, UK, Belgium, the Netherlands and France) together with Norway and Ukraine among the EU associated countries. All laws have been adopted in the implementation of the international obligations laid down by the Outer Space Treaties. But there is a great diversity in the implementation of such obligations which attends to the aim with which they have been established. While laws like the Swedish[7] were adopted a time when national public programmes where still being settled[8] others such as the Belgian and the Netherlands legislations where passed foreseeing the potential growth of commercial space activities[9]. A third group of countries such as France and the UK have passed laws in response to the well established commercial space activities.

All legislations incorporate the aim of implementing the international obligations on space affairs to which they are signatories and therefore they have all regulated the obligations to obtain authorisation, registration, supervisory action and liability conditions. Most of them (not Sweden) have incorporated the obligation to be insured.

While all legislations incorporate conditions such as the compliance with national security, public health and environmental criteria, these are not further specified and their evaluation is let to the competent Ministry which is also enabled to add further conditions to the licence on an *ad hoc* basis. Although legislation such as the UK Act or the Netherlands Act includes lists of requirements to be fulfilled by the operator, no criteria or standards are elaborated through other implementing decrees. In this sense the majority of space licences in Europe are open to the discretion of the competent authorities which are not specified further than a mere reference to the Minister in charge.

Most laws include insurance obligations. No licence is granted if the operator has not proven financial reliability through insurance coverage. Insurance coverage is

[6] Steiner, Josephine and Lorna Woods. EC Law. Oxford/ New York: Oxford University Press:2003. 258-276.

[7] Swedish Act on Space Activities (1982:963) and Swedish Implementing Decree on Space Activities (1982:1069). Nina Wormbs and Gustav Källstrand. A Short History of Swedish Space Activities. ESA (HSR-39). ESTEC, Nordwijk: 2007

[8] Nina Wormbs and Gustav Källstrand. A Short History of Swedish Space Activities. ESA (HSR-39). ESTEC, Nordwijk: 2007

[9] Von der Dunk, Frans"The case of the Netherlands." Nationales Weltraumrecht. National Space Law. Development in Europe-Challenges for Small Countries. Eds. Christian Brünner and Edith Walter. Wien –Köln-Graz: Böhlau, 2008. 93-97. Jean-François Mayence. Presentation of the Belgian Law. COPUOS 52nd Session. June 2009.

directly linked to liability. If the operator is to be unlimitedly liable for damages caused to third parties it might no be able to be obtain insurance warranty from the insurance market.

In this sense, legislators have incorporated different criteria to limit the insurance obligation as well as the liability. Therefore, while the Netherlands Act has incorporated the criteria of "maximum possible cover",[10] the French Space Operations Act limits insurance to the liability cap.[11]

Liability is strongly linked to insurance. While the Liability convention imposes unlimited liability to states, private operators may not be as liquid as states and not be able to bear the entire burden of liability. Unlimited liability is a deterrent for commercial operators who may chose to escape jurisdictions imposing such measures. While the UK Act does not limit liability, the Netherlands Act[12] as well as the Swedish[13] Act and the Belgian Law[14] have let the fixing of such liability caps to the discretion of the competent authorities.

In this sense the most sophisticated legislation among the European legislations is the French Law which clearly appoints the competent authorities (while the Ministry of Science and Research is in charge of issuing the authorisation/licence and for assessing the moral, financial and professional capacity of the operator all technical assessment and regulations fall in the hands of the national space agency CNES). The French Space Operations Act is characterised for designing a flexible system of licence and authorisations too. And it is recognised as an operators friendly liability regime as it does not only fix a liability cap but also foresees a state warranty above that cap.

3. The commercial relevance of space legislations

The consequences of the differences between national space legislations are reflected in several ways; on the one hand the very existence or lack of such is already seen a source of distortion, on the other hand the stipulation of certain or the other conditions as well as their formulation has an important impact on the shaping of the national commercial space activities.

To begin with, the very existence of space legislation in certain countries and the lack of them already creates consequences in the commercial landscape. The existence of a national law may imply attractive conditions for the conduct of commercial space activities or, on the contrary, adverse conditions can shift the space activities to those regions where more favourable conditions are offered. The so called licence shopping is not the only consequence of national legislations. On the other hand, the array of conditions and requirements of national space legislations shapes the industrial culture of the company. Therefore, in addition to the polarisation of commercial activities, different national legislations also increase the

[10] Sec 3(4) the Netherlands Act
[11] Arts. 15, 16, 17 and 18 SOA
[12] Supra 10
[13] Sec 6 Swedish Act.
[14] Art. 15(3) Belgian Law.

differences between commercial operators influencing their attractiveness and their competitiveness.

The existence of national legislations is not only measured on geographic terms (countries with a national legislation or countries without one) but also in terms of time. Often the adoption of the national space legislation goes hand in hand with the development of commercial operations. Such is the case of the U.S. or Australia where the laws where created as soon as space transportation developed into commercial activities. In cases such as in the Netherlands or in Belgium the laws were adopted in the foresight of a significant growth of commercial space a activities and in the case of France, the law was only adopted much after the main operators (namely, EUTELSAT and Arianespace) had already been carrying out commercial activities.[15] Space legislations adopted after the commercial activities have been developed, or the introduction of changes into existing law may have adverse consequences in commercial space activities. The current discussion on the state indemnification foreseen by the Commercial Space Launch Act (CSLA) illustrates the case. State indemnification was introduced as a measure to increase competitiveness of space launch activities in the U.S. with the aim of possibly removing such clause once the sector was mature. The state indemnification is now being put to the test and it is observed that the removal of such measure would "kill the market" as operators would be more attracted to launch with in other countries offering such warranty.

On the other hand the introduction of a new law may create great concerns in commercial operators which were not subject to authorisation obligations and are now obliged to fulfil certain requisites. Such is the case of the Space Operations Act (SOA) in France. Commercial operators are now concerned, about the loss of competitiveness against other operators who are not subject to authorisation procedures or insurance and liability conditions. A second concern is whether operators will simply be denied authorisation or other additional protection in the form of state warranty. When national space legislations are introduced after the development of commercial space activities, laws may be based on the expertise already built up by the biggest operations. Although such case may involve the incorporation of well adapted practices to reality, they may also involve the freezing of practices only adapted to the major operators and foreclose the market for newcomers with different traditions or new small operators to whom the requirements of the laws are not well adapted.

The aforementioned scenarios correspond to space powers with strong commercial space sectors and launch facilities. On the contrary, countries with weaker or no commercial space activities have also adopted space laws such is the case of the Netherlands and

[15] On the so called "French paradox", Schmidt-Tedd, Bernhard and Isabelle Arnold. "The French Act relating to space activities. From international law idealism to national industrial pragmatism". ESPI Perspectives 11. Aug 2008 3 Aug 2009 http://www.espi.or.at/images/stories/dokumente/Perspectives/espi-perspectives_11.pdf and Couston, Mireille "La loi Français sur les opérations spatiales", ZLW 58 Jg 2/2009. 253.

Belgium, foreseeing the possible development of wider activities. As mentioned before, although exhaustive in scope, such laws adopt open stipulations awarding for discretion to governmental authorities, they often base the grant of licences to ad hoc committees or bodies, (Art 5 of the Belgian Law) who will decide on ad hoc basis. Technical standards, authorisation procedures and safety requirements are hardly specified and the conditions attached to a licence depend on the specific operation. Equally, liability caps and insurance conditions are subject to case by case decisions. It may be argued that where commercial space activities are not frequent, such flexibility allows tailor-made responses. Operators whose reliability has been proven through long standing activity would not be subject to less strict assessments than newcomers. But on the contrary, such approach involves the risk of granting dominance to well known operators while creating barriers to smaller operators who would have to prove thoroughly their reliability. The situation of small operators would also be hardened by the lack of transparency and the uncertainty of the liability to be born.

4. An EU common reference for commercial space activities

Neither two operators are the same nor are they subject to equal or similar legal contexts. In Europe, Hellassat in Greece, Hispasat in Spain, and SES in Luxembourg are not subject to any space legislation while Inmarsat in the UK and Eutelsat in France are subject to legal regimes that differ significantly in their philosophies. As mentioned before, a fragmented legislative landscape at EU level may impact the way satellite operators are geographically located and, most importantly, may affect their competitiveness.

It may be argued that the EU is not concerned with the even location of the industries across the EU, it may also be argued that national legislations are only contrary to the *aquis communautaire* if they impose different conditions to operators of other countries in their own territories[16] and it may also be argued that there is no real market in the EU for space activities excluding space based activities. Therefore, EU action in the field of space legislation, concretely harmonisation of space legislations, can be questioned. However, the importance of space to contribute to the enhancement of a competitive economy has been repeatedly stated in all steps leading to the creation of a European Space Policy, in the EC-ESA Framework Agreement[17] and more recently by the European Council of December 2008.[18] Interestingly, even the competition authority of the EC has acknowledged the importance of space activities for the achievement of a competitive economy.

As mentioned before, space legislations influence the workings of commercial space operators at

[16] The competition authority of the European Commission expressly states with regards to the French Space Operations Act that since application is equally open to all operators in EU, it does not contravene the principles of the internal market. European Commission Garantie de l'Etat pour des dommages causés à des tiers dans le cadre d'opérations spatiales. C (2007) 5093 final. 23 X 2007. Brussels.

[17] Council of the European Union. 12858/03. Brussels, 7 Oct. 2003.

[18] Council of the European Union. Presidency Conclusions. 17271/1/08REV 1. Brussels, 11 - 12 Dec 2008. point 18

commercial level but also at technological level. A favourable liability system and reduced costs caused by authorisation requirements facilitate optimisation of satellites and launch procurement. Given the current heterogeneity in the development of space activities and legislations in the EU and given the risks above mentioned such as the lack of transparency, the threat of dominance of the biggest operators and the foreclosure of the market *vis à vis* smaller operators, the EU may be the right placed to provide minimum common standards and measures that could encompass the following:

- Safety standards
- A coordinated authorisation procedure
- A coherent system of licences applicable throughout the Union and adapted to different types of operators and different operations.
- A coherent system to calculate insurance obligations at EU level
- A coherent framework for liability establishing parameters to calculate liability caps and forms of cross waiver liability.

The EU could also provide for the technical expertise for authorisation and supervision as well as guidance rules procedures and standards through an agency.

However, the capacity of the EU for action at legislative level in the space sector is limited. On the one hand, the EU is not bound by the Outer Space Treaties and, therefore, not liable for third party damages caused by space activities of which EU member States may be liable. Therefore, the EU cannot neither take responsibility for such damages nor impose obligations in contravention with international obligations as this could cause difficult conflict of Laws. Equally, it is doubtful that the EU could subrogate member states in the grant of authorisations.

The second obstacle is connected to the question of competence of the EU to harmonise space laws. On the one hand, it is argued that harmonisation can only take place among existing laws, but not all member states have adopted space legislations. However, this capacity of the EU would be accepted as long as EU action would contribute to the furthering of integration it is accepted that the EU would be able to harmonise.[19] The current legal basis to this aim is to be found in Art. 308 TEC and Art. 94 and 95 TEC.

Looking ahead to the Lisbon Treaty, the Treaty also foresees a space competence while depriving the Union of any harmonisation within the space competence (Art. 189 TFEU). Nevertheless, the LT does still allow for coordination and support activities in this area of competence and does not exclude further cooperation between member states which could take shape as enhanced cooperation or an open method of coordination. While the first instrument would allow to shape the competence reaching as far as member states

[19] Marchisio, Sergio. "Potential European Space Policy and its Impact on National Space Legislation". Eds. Stephan Hobe, Berhard Schmidt-Tedd, Kai-Uwe Schrogl,. Towards a Harmonised Approach for National Space Legislation in Europe. Köln: 2004. 145, 146

would wish in terms of harmonisation, the second acts as a method of coordination of national policies rather than laws and its flexibility allows to impose soft law measures again as far reaching as member states would wish.

In conclusion, the current legal discussions focuses on the harmonisation of space laws in Europe in order to facilitate a competitive commercial space sector through the coherence of internal law while endowing European space operators with a strong position in the international market. But as it has just been exposed by this paper, not only it is difficult to achieve harmonisation but may not even be suitable. The aims of transparency, coherence and guidance needed in space laws in Europe in order to support a strong commercial space activity may also be achieved through establishment of guidelines. The question remains whether the latter would really be capable of endowing the European space commercial sector with a strong position in the international arena.